

RESPONSE TO OFFICE ACTION
DATED DECEMBER 28, 2006

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REMARKS

This is in response to the Office Action dated December 28, 2006. Reconsideration is respectfully requested.

Summary of the Invention

The invention concerns a battery having a plurality to aqueous electrolyte cells. The battery is connectable to a fluid source for replenishing fluid in the cells. The battery comprises a fluid conduit which is fixed to the battery and capable of being connected to the fluid source. The fluid conduit is in fluid communication with the cells. A valve system is operatively associated with the fluid conduit for controlling fluid flow from the fluid source to the cells. An electrolyte level sensor is positioned in at least one of the cells. A controller, attached to the battery, is in communication with the level sensor and the valve system. The controller controls the valve system to allow fluid to flow to the cells in response to signals from the level sensor indicative of a deficient amount of electrolyte in the cells. The controller prevents fluid flow to the cells in response to signals from the level sensor indicative of a sufficient amount of electrolyte in the cells.

Status of the Claims

Claims 1-16, 32 and 33 are pending; Claims 17-31 have been canceled without prejudice consistent with the restriction requirement, made final by the Examiner.

Summary of Rejections

Claims 1-8, 32 and 33 are rejected as anticipated by U.S. Patent No. 5,615,717 to Cheiky. Claims 9, 10, 15 and 16 are rejected as obvious over Cheiky in view of U.S. Patent No. 6,111,387 to Kouzu et al. Claims 11-14 are rejected as obvious over Cheiky in view of U.S. Patent Application Publication No. 2003/0008204 to Winter et al and U.S. Patent No. 4,283,467 to Gutlich et al.

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The Argument

Applicant respectfully traverses the rejections contending that the cited references fail to meet the requirements necessary to support a rejection on the basis of anticipation, and fail to meet the requirements necessary to establish a *prima facie* case of obviousness. Applicant's arguments in support of his position is provided below on a claim-by-claim basis.

Claim 1

Claim 1 recites, in relevant part, an electric battery having a plurality of aqueous electrolyte cells, wherein an electrolyte level sensor capable of generating signals indicative of an amount of electrolyte in at least one of said cells. The claim further recites that a microprocessor is in communication with the sensor. Cheiky does not disclose such a sensor. Nowhere in Cheiky is such a sensor described. Both Figures 1 and 8 of Cheiky, which show a microprocessor 27, do not show a level sensor, or the microprocessor in communication with a level sensor. Furthermore, in her justification of the rejection of Claim 1, mention of a level sensor is conspicuously absent from the Examiner's remarks. On page 3 of the Action, the Examiner lists various items disclosed in Cheiky that she contends are also recited in Applicant's Claim 1. An electrolyte level sensor is not one of the items on the Examiner's list. This is because there is no such sensor disclosed or needed in Cheiky.

To anticipate a claim, the reference must teach every element of the claim. Cheiky clearly fails to meet this criterion because it does not teach a level sensor. The Examiner has tacitly admitted this by her omission of a level sensor from her list of elements she asserts is disclosed in Cheiky. Claim 1 should be allowable over Cheiky because the cited reference fails to teach every element of Claim 1.

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Claims 2-8 depend, either directly or indirectly, upon Claim 1 and should be allowable over Cheiky for the same reasons that Claim 1 is allowable. Furthermore, Claims 6-8 recite features of applicant's invention that are nowhere described or illustrated in Cheiky. Claim 6 recites a particular coupling having a biasing member and a latch. Such a coupling is not disclosed in Cheiky. Claim 7 recites that the latch is electrically actuatable. This feature is not disclosed in Cheiky. Claim 8 recites a sensor associated with the latch which generates signals indicative of engagement and disengagement of the coupling. No such sensor is disclosed in Cheiky. Cheiky cannot anticipate Claims 6-8, because it fails to teach every element of these claims.

Claims 32 and 33

Claims 32 and 33 should be allowable over Cheiky because the reference fails to teach a method of replenishing fluid to cells of a battery including the step of sensing when electrolyte in the battery is low as recited in Claim 32. As explained above, Cheiky does not disclose a sensor for sensing electrolyte level in a battery. Furthermore, the mode of operation described in Cheiky does not teach the step of sensing an electrolyte level. The operation of Cheiky is described beginning at column 6, line 53, which indicates that the microprocessor controls the flow of electrolyte to the cells by turning a valve 24 on for a specified length of time and then rotating the dispenser 40. Nowhere is it stated that there is any level sensing as a part of the operation of Cheiky. Applicant requests that the Examiner explain precisely where in Cheiky the method steps recited in Claims 32 and 33 are taught or withdraw the rejection.

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Claim 9

Claim 9 recites a ventilated cover positioned on the battery. The Examiner admits that such a cover is not disclosed in Cheiky and cites Kouzu et al as teaching a cover, stating that it would be obvious to modify Cheiky by the addition of a cover.

Note that, as explained above, Cheiky does not teach every element of Claim 1, upon which Claim 9 depends. Therefore, even if Kouzu et al taught a cover as recited in Claim 9, the combination of Cheiky modified by Kouzu et al would not meet the requirements necessary to establish a *prima facie* case of obviousness because one of the three criteria requires that all claim elements be taught or suggested.

Furthermore, the Examiner has ignored the fact that the claim recites a ventilated cover. The endplates 19 disclosed in Kouzu et al are not ventilated as seen in Figures 10-12 and described at column 13, beginning at line 24. Any openings in the end plates are blocked by various components of the battery assembly. Additionally, Kouzu et al teaches away from mounting a cover on the battery to promote cooling. Figures 3 and 17 illustrate the cooling of the battery, which is described in detail beginning at column 14, line 44. Figure 3 clearly shows an open top portion 26 which facilitates the egress of cooling air circulated by the fan 5 shown in Figure 17. To propose the use of a cover on Cheiky goes against the teaching of Kouzu et al, and there is no motivation where there is a teaching away. Thus, the combination of Cheiky and Kouzu et al as proposed by the Examiner fails to meet a second requirement necessary to establish a *prima facie* case of obviousness, that requirement being that there must be some suggestion or motivation to modify the reference or combine reference teachings. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of

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the combination. In re Mills, 16 USPQ2d 1430 (Fed. Cir. 1990). (See also MPEP, Section 2143.01.) Clearly, where there is a teaching away, as in Kouzu et al, which teaches a coverless battery housing to facilitate cooling, it cannot reasonably be stated that there is any motivation to position a ventilated cover over a battery as recited in applicant's claim.

Claim 10 depends upon Claim 9 and should be allowable for the same reasons that Claim 9 is allowable.

Claim 11

Claim 11 recites a charging sensor which generates a signal indicative of when the battery is being charged. Examples of this sensor are described on pages 12-14 of the application.

In rejecting Claim 11, the Examiner has cited Winter et al as teaching a "leak detection system" which operates using "an electric switch [which] measures the current flowing in the battery. This measurement is sent to the controller to determine whether there is a leak by determining electrolyte level." This leak detector appears to be totally irrelevant to Claim 11, which recites a battery having a charging sensor. Applicant requests that the Examiner explain how a leak detector renders obvious a charging sensor, as it is not clear since the two devices have distinctly different purposes. Applicant asserts that the combination of Cheiky modified by the teachings of Winter et al as proposed by the Examiner fails to meet the requirements necessary to establish a *prima facie* case of obviousness because all elements recited in Claim 11 are not taught or suggested; i.e., Claim 11 recites a charging sensor, and such a sensor is absent from the battery taught in Cheiky as modified by the teachings of Winter et al. Applicant further points out that even if Winter et al did teach a charging sensor (which it does not), the combination

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of Cheiky and Winter et al would still fail to teach a battery having an electrolyte level sensor as recited in Claim 1 upon which Claim 11 depends.

Claims 12 and 13

The Examiner further states: "As for the methods by which the sensor determines the level of Claims 12 and 13, these processes are not given patentable weight since the sensor of Winter et al accomplishes the same task. It would be desirable to use the sensor of Winters et al in the battery of Cheiky to determine liquid levels since it provides a qualitative method of finding liquid levels in the battery." Based upon these statements, one must conclude that the Examiner is clearly confused as to what is recited in Claims 12 and 13 and the relevance (or total lack thereof) of the teachings of Winter et al to these claims. There are no "levels" recited in either claim. The claims recite examples of devices for sensing the flow of electrical current to the battery which is indicative of battery charging, not the flow of electrolyte from the battery cell as implied by the Examiner's remarks. Applicant contends that Winter et al is irrelevant to any of the claims at issue, as is clear from a careful reading of the patent.

Applicant further notes that Claims 12-16 depend, either directly or indirectly, upon Claim 11 and should be allowable for the same reasons that Claim 11 is allowable.

Summary

Applicant has shown that the cited references fail to meet the requirements necessary to support rejections on both the basis of anticipation and obviousness and request, in view

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of the arguments presented, that the rejections be withdrawn
and the application passed to issue.

Respectfully submitted,

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